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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,500	08/24/2006	Kurt Behre	06-467	1083
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EXAMINER KENNEDY, TIMOTHY J				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/590,500

Applicant(s)

BEHRE, KURT

Examiner

TIMOTHY KENNEDY

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-51 is/are pending in the application.
- 4a) Of the above claim(s) 52-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 8/24/06

DETAILED ACTION

1. This is a non-final Office Action in response to the restriction election submitted on 3/20/2009.

Election/Restrictions

2. Applicant's election with traverse of Group I (claims 33-51) in the reply filed on 3/20/2009 is acknowledged. The traversal is on the ground(s) that the search field for the two groups would overlap. This is not found persuasive because the instant application is a 371 of PCT/EP05/01973 and restriction practice for PCT applications follows the PCT Rule 13 "Unity of Invention" guidelines and not the "independent and distinct" standard for applications filed under 35 U.S.C. 111(a). Regarding the search, there is some overlap, but the search required for one group includes areas not necessary for the other group. For example the search of the process requires searching for the application of powder, while the search for the apparatus requires a broader reach for matrix applicators.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the pre-pressing of claim 41, the pressing station of claim 44, the pressing and tempering zones of claim 47, the pressing plates of claims 48 and 49 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 46 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The is no antecedent basis for "cover layer" in claim 33. The Examiner will treat claim 46 as if it was a dependent claim of claim 45, which has proper antecedent basis for "cover layer."

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 33-36, 38, 39, 41-47, and 51 and rejected under 35 U.S.C. 103(a) as being unpatentable over Sprengling (U.S. Patent 4,496,415, already of record), in view of Loubinoux (WO 02/070806, using U.S. PGPub 2004/0082244 for English equivalent). Regarding claim 1, Sprengling teaches:

10. In which method a first web-like fibre structure is supplied to a fibre laying device, by means of in-line fibre feed units one or more further web-like fibre structures are arranged over the first fibre structure, by means of one or more matrix feed units connected before or after the fibre feed units a matrix starting material is supplied to

exposed layers of fibre structures, and the multilayer fibre web emerging from the fibre laying device and coated one or more times with intermediate layers of matrix starting material is supplied to a continuous press in which the matrix starting material is transformed under the effect of heat and/or pressure into a low viscosity fluid and the multilayer fibre web under impregnation of the fibre structure is pressed into a plate-like plastics material (Figure 1, column 3 line 34 to column 5 lines 53)

11. Sprengling does not teach:
12. Wherein at least one fibre feed unit is formed as a cross layer by means of which a web-like flat structure which is supplied obliquely or diagonally to the advance direction of the fibre web is applied to the fibre web by regular folding thereof along the side edges of the fibre web.
13. In the same field of endeavor Loubinoux teaches applying a fiber web as a cross layer that is folded (Figure 2).
14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the folded cross layers as taught by Loubinoux, using the Sprengling method, since the application of folded cross layer increases the mechanical properties of the final product (paragraphs 0025-0026).
15. Regarding claim 34, Loubinoux further teaches:
16. The web-like surface structure is supplied and folded at an angle of 45° to the advance direction of the fibre web (paragraph 0026)
17. Regarding claim 35, Sprengling and Loubinoux as previously discussed teach:

18. Alternately a web-like fibre structure is supplied unfolded in the advance direction of the fibre web and a subsequent web-like fibre structure is supplied by means of cross layers crossing obliquely or diagonally to the feed direction of the fibre web
19. Sprengling further teaches:
20. Where the first and last fibre structures which are supplied are supplied preferably unfolded in the advance direction of the fibre web (Figure 1 parts 1 and 3)
21. Regarding claim 36:
22. The matrix feed units are in each case arranged after a fibre feed unit with cross layer
23. As previously discussed Sprengling and Loubinoux teach a process for laying down webs some of which are folded as a cross layer.
24. Sprengling further teaches the application of a resin powder between layers as seen in Figure 1 parts 7-10.
25. Regarding claim 38, Sprengling further teaches:
26. The matrix feed units are powder scatterers by means of which the matrix starting material which is present in powder form is scattered onto a layer of an exposed fibre structure (Figure 1 parts 7-10)
27. Regarding claim 39, Sprengling further teaches:
28. By means of matrix feed supply units, a film-like matrix starting material is applied to the exposed surface of a fibre structure (column 3, lines 46-64)
29. Regarding claims 41-43, Sprengling further teaches:

30. Sprengling further teaches the claimed process limitations of claims 41-43 as seen in Figure 1, parts 19-23.

31. Regarding claim 44, Sprengling further teaches:

32. The further fibre structures which are supplied by way of a fibre feed unit in the advance direction of the fibre web are applied by way of a pressing station onto the multilayer fibre web (Figure 1, parts 20-23)

33. Regarding claims 45 and 46:

34. Claim 45) The multilayer fibre web, after supply of all fibre structures and all matrix starting materials and before entry into the continuous press, is coated on one or both sides with a cover layer in the form of a plastics foil or extruded plastics film, where in the continuous press the cover layer connects to the plastics matrix of the multilayer fibre web

35. Claim 46) The cover layer comprises thermoplastic plastics

36. Sprengling teaches the application of metal foils (Figure 1 parts 16 and 17, column 4, lines 48-52) instead of a plastic foil.

37. It would have been obvious to one having ordinary skill in the art the time the invention was made to use a plastic foil instead of a metal foil, since there are only two types of foil available to a skilled artisan (polymer based and metallic based) and only three types of polymers (thermoplastic, thermoset, and elastomer). It has been shown that a person of ordinary skill has good reason to pursue the known options in their art. If this lead to an anticipated success, it is likely that it was not due to innovation but of

ordinary skill and common sense. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007).

38. Regarding claim 51, Sprengling and Loubinoux as previously discussed teach:

39. The multilayer fibre web is guided through one or more impression cylinders which are arranged in the continuous press, whereby the multilayer fibre web undergoes a complete bubble-free impregnation of the fibre structure with the melt-like plastics matrix

40. Sprengling teaches the use of four cylinders in the continuous press (Figure 1, parts 26 and 27), but those cylinders are not considered impression cylinders.

41. Loubinoux teaches the use of a pair of cylinders (Figure 1, part 12) within a continuous press.

42. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the rollers as taught by Loubinoux, using the Sprengling process, since doing so would create a unitary structure. Eventhough Sprengling does not exactly teach impression rollers, the process Sprengling teaches creates a unitary structure (column 5, lines 3-34)

43. Claims 37, 40, and 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sprengling and Loubinoux as applied to claim 33 above, and further in view of Cook et al (U.S. Patent 5,191,013, herein Cook). Regarding claim 37, Sprengling and Loubinoux do not teach:

44. The matrix starting material is a reactive starting material containing cyclic or macrocyclic oligomers of polyester mixed with a polymerisation catalyst, in particular a reactive starting material containing cyclic oligomers of PBT (CPBT) mixed with a polymerisation catalyst

45. In the same field of composite processing, Cook teaches the use of the claimed thermoplastic composition for use in fiber composites (Abstract, column 1, lines 8-23, and column 2, lines 18-29), as compared to the thermoset as taught by Sprengling.

46. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the composition as taught by Cook, using the process as taught by Sprengling and Loubinoux, since the composition claimed have excellent properties including solvent resistance (Abstract).

47. Regarding claim 40:

48. The reactive starting material is polymerised in the continuous press into a thermoplastic plastics matrix

49. Using the composition taught by Cook, that was discussed regarding claim 37, the heating press of Springling is capable of reaching 250°C (column 5, lines 18-20), which is able to reach the polymerization temperature as described by the Applicants of 180-190°C.

50. Regarding claim 47:

51. See remarks regarding claim 37, 40, and 51

52. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sprengling and Loubinoux as applied to claim 33 above, and further evidenced by Stabler (U.S. Patent 4,164,386). Regarding claim 48:

53. Wherein the multilayer fibre web is guided through a continuous press with several separately adjustable pressing zones and tempering zones and the contact pressures are generated by floating hydraulically activated lower pressing plates which work against an upper rigid pressing construction

54. Sprengling teaches the press used (column 5, lines 14-17) except for the tempering zones. The pressed used by Sprengling is the press shown by Stabler in Figure 1. Even though the hydraulic rams 3 are shown on the upper part, one having ordinary skill in the art would be able to recognize that the same process is being accomplished regardless of the hydraulics' orientation.

55. Loubinoux teaches the use of tempering zones (Figure 1, parts 11 and 13, and paragraph 0068)

56. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the tempering zones of Loubinoux, using the process of Sprengling, since it would prepare the product for the cutting knives 14.

57. Claims 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sprengling and Loubinoux as applied to claim 33 above, and further in view of Troutner (U.S. Patent 3,723,230) and further evidenced by Stabler (U.S. Patent 4,164,386). Regarding claim 49, Sprengling and Loubinoux do not teach:

58. The pressure in the continuous press is created by segmented pressure plates with adjustable gap spacing to each other
59. In the same field of endeavor Troutner teaches the use of segmented pressure plates with an adjustable gap (Figures 1A and 1B, and column 3 line 41 - column 4 line 66)
60. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plates as taught by Troutner, using the Sprengling and Loubinoux process, since the plates overcome the problem of uneven pressure that often occurs with endless belt processing (column 4, lines 56-66)
61. Regarding claim 50:
62. See remarks regarding claim 47 and 51. The process with the plates as taught by Troutner would create a unitary structure as previously discussed.

Conclusion

63. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents: 2430534, 2624079, 3540974.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY KENNEDY whose telephone number is (571) 270-7068. The examiner can normally be reached on Monday to Friday 9:00am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571) 272-1130. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

tjk

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791